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POTTERY AND PORCELAIN.

THE history of pottery is as old as our knowledge of mankind, for there is little doubt that among the first things man did for himself after compassing the destruction of the animals which were to supply his food and clothing, was to make, like Robinson Crusoe, vessels to contain his food and drink from the materials furnished by the earth around him. His first step in this direction was, of course, like that of the island hero whom we have named, to wet up clay until it made a stiff mud, fashion it into rude shapes of needed utensils, and bake in a hot fire. The result was, of course, vessels useful in themselves, but not adapted to the holding of liquids without loss by evaporation through the pores of the clay. This is known as "simple pottery," and specimens of it, when found in mounds or tombs, are prized as relics of man in the very earliest stages of his development.

The next step in the manufacture of pottery after the mere making of it, was its ornamentation, or, at least, its fashioning into more artistic shapes; and, naturally following this, came the art of glazing, or of producing a lustrous surface on the articles made. This point once attained, the steps were few, but not, perhaps, easy, to the production of the most beautiful specimens of Faience, Majolica, Palissy and other enameled and highly ornamented wares, and of porcelain in all its varieties.

Of pottery, as distinguished from porcelain, after the "simple pottery" already spoken of there are four sorts, all of which are made of clay and sand in varying proportions. These sorts are: 1st, Unglazed, such as flower-pots and the like; 2d, Lustrous, in which the pottery is coated with a thin varnish which reflects the light, but is sometimes pervious to water; 3d, Glazed, in which a thick, shining surface is produced on the articles by means of a glazing composed of some compound of lead or of various alkalies; and, 4th, Enameled, in which the article is covered by a vitreous enamel, in the composition of which siliceous matter in some form plays an important part.

It is this last class which is probably most interesting to the collector, because in it are included those specimens of Faience (so called from the city of Faenza, in Italy, where decorated pottery was largely manufactured in the 16th century), Majolica, Palissy and similar wares so dear to every lover of ornamental pottery. Majolica ware is said to have been named from the island of Majorca, though the best specimens now attainable are probably those which are manufactured in Great Britain. The Palissy ware takes its name from the hero of ceramic art, of whose career we have already told at length in THE ALDINE.

Between pottery and porcelain there is a difference which is easily perceived nowadays, but which was not so easily created, at least by Europeans. The first knowledge of porcelain which was had in Europe came from specimens of the ware brought from China by the early travelers to that country. The peculiar beauty of these wares led to many attempts to imitate them; but the first great success was achieved by Böttger, or Böttcher, chemist to Augustus, Elector of Saxony and King of Poland, about 1710. The discovery, like many others, is said to have been made by accident. Porcelain, like pottery, is made from clay and sand; but only a peculiar kind of clay—known as *kaolin*—can be used; and it was the lack of the knowledge of this fact, and of the existence in Europe of this clay, which had caused all the experiments heretofore made to fail, until Böttger found

that a powder which had been procured for dressing his hair fused with sand into a translucent mass resembling Chinese porcelain. Inquiry showed that this powder was the clay now known as kaolin, and the chemist soon succeeded in making porcelain nearly equal in beauty to that brought from China. As a result of that discovery, the royal works at Meissen, near Dresden, were established. The first sales of articles manufactured at this place were made in 1715, and from that time to this the Meissen—or Dresden, as it is called—porcelain has maintained the reputation it at once acquired as being unexcelled in beauty and more especially in purity of paste and enamel. Rivals it has had, but, in all essentials, neither equal nor superior. The secret of making the new ware was long kept inviolate by the great pains taken to prevent its becoming known to others

an interior of firm, opaque pottery, with a thin covering of enamel on each side. Break a piece of porcelain, on the other hand, and it shows the piece to be of the same quality throughout, approaching to the character of a semi-opaque glass.

It is this character of translucency which is peculiarly characteristic of porcelain, some of the varieties approaching very near to glass in quality and appearance. It is divided into two kinds—hard paste and soft paste—according to the quality of the mixture from which the articles are fashioned. The soft-paste porcelain is easily recognized by its oily "feel" when handled, by being soft enough to be readily scratched by iron, and by being glazed throughout. The hard-paste porcelain, on the other hand, does not give an oily sensation to the finger, is not easily scratched, and has always unglazed rims at the bottoms of the articles. All the Chinese porcelain, and most of that made in Europe, is of this latter variety.

Excellent fields for the study of ceramic art in all its branches have been and are afforded to visitors at the Philadelphia Exhibition, while in New York the collection always open at the Metropolitan Museum of Art gives a good exhibit of the history of this branch of art from the earliest times. The vase which we illustrate was made at the Meissen manufactory, which, as we have said, has never been surpassed by Europeans, if, indeed, the Chinese have excelled its best productions. Besides its fine quality, the Dresden ware is also remarkable for the beauty and delicacy of its ornamentation, especially in the direction of flowers and foliage, in which line none of the rival manufactories have ever succeeded in equaling the work done at Meissen.

ART AT THE CENTENNIAL.

I HAVE been duly informed of hopes entertained by sundry people that THE ALDINE will do justice to various worthy interests in this New-World's-Fair. I regret to say, so far as the dispensation depends on me, such hopes are vain. Unaccustomed as I am to centennial exhibitions, I have learned that doing justice is quite out of the question. I can only undertake to mention a few things that seem to me of superior importance to Americans and to American art, and to give some information about them which I hope will be acceptable to the readers of THE ALDINE. It has been found impossible, so far, by the parties interested, to make a catalogue—a mere numbered list—of the articles contained in one building, even though the immense amount which was paid for the "catalogue privilege" has been in dan-

ger of forfeit from the failure. As nearly every object is well worthy of notice, to descant fully upon the merits of even a few would be to preclude the possibility of giving attention to others quite as deserving. Though the heavens fall, then, let us not expect justice to be done.

From the point of view taken for these descriptions, I think that next in interest and importance to the ceramic products already mentioned, are the works of enamelers on metals. China, of course, furnishes the largest and most varied exhibit, her enameled bronzes being among the most noticeable of her contributions. But France also has some remarkably fine enameled bronze figures, and the enameled metals from England will be found of great worth, both as works of art and as means of instruction.

Enamel has been used since the earliest civilization of which we have any record, to give surface and color to ceramic productions. It was the Autocrat of the Breakfast-Table, I believe, who recommended enamel-



DRESDEN PORCELAIN VASE.

than the workmen, who were not only sworn to secrecy, but were watched over with tyrannical sharpness. Such secrets do escape, however, and so did this; and manufactories of porcelain were established at Berlin, Sèvres, Vienna and elsewhere. The one at Berlin was established by Frederick the Great, who carried off the workmen from Meissen bodily, keeping them as close prisoners at Berlin. The manner of life of those involuntary exiles has been charmingly sketched by Miss Edgeworth in one of her short tales. The Dresden works were soon in full operation, however, and have so remained ever since, though the only supremacy they can now claim is that resulting from superior knowledge and care, the manufacture of porcelain being now no longer a secret process. It is carried on not only in various towns of Europe, but also in several places in the United States.

Porcelain differs from pottery in being not simply highly glazed, but translucent and homogeneous. Break a piece of pottery ware, and the fracture shows

ing one's name on a coffee-cup as an inexpensive and reasonably certain method of handing it down to posterity. Crockery, after suffering a certain amount of breakage, is indestructible, and fragments of the "coffee-cup" of the period constitute the most interesting and significant remains we have of many early phases of developing civilization. There are no evidences, so far as I am aware, that enameling on metal was practiced earlier than the era of the "middle empire" in Egypt. The Chinese claim that the art was known to their people thousands of years earlier; but this is one of the indefinite myths of their tradition which can not be historically established. There is, however, accepted historic evidence that the Egyptians used copper vessels ornamented with enamels in colors nearly three thousand years before our era.

This gives a very early date to the art; but the history of enamel on pottery carries the origin of its practice still further back, and places it among the primitive developments of human skill in the direction of ornamentation. Metal enameling and porcelain glazing are now two very distinct arts, I admit; but they may be fairly considered historically as having the same origin. The material used is, and always has been, substantially the same—potash and silice, colored with metallic oxides. The methods of use are also fundamentally much the same. The composition is made into a paste, applied with a brush or equivalent device, and then subjected to fusing heat.

Clays, however, can be subjected to much higher degrees of heat than metal will withstand, and consequently can be made available for a wider range of effects. Further, on clay, enamel interfuses with the material, and becomes an integral part of the object to which it is applied, while on metal it merely adheres to the surface. These limitations have given direction to the art of enameling on metals, and have determined the two distinct ways in which it is now pursued.

Metal enameling, though extensively practiced in China, was in Europe confined almost exclusively to jewelry until a very recent period. Indeed, it is probable that the splendid displays of Chinese and Japanese enamels at the Paris and Vienna exhibitions stimulated similar productions in France and England, though the simpler kinds of enamels were made in England some years earlier; and, as above intimated, enamels had been used on lockets, pounce-boxes, cups, bracelets and the like, in all ages. In the seventeenth century this branch of the art was revived in France, and has there been brought to great perfection. The watch-case enamels of the French jewelers, notably those enriched with precious stones, are the finest examples ever produced. To these artificers we are indebted for the terms *cloisonné* and *champlevé*, which are now used to distinguish the two principal classes of enamels above mentioned.

Champlevé work is the least difficult and most widely known. Its use is confined to designs or figures in lines. The designs are traced on the metal, on which a surface has been prepared for the drawing. The lines are then cut in channels, and these channels receive the enamel. This is a simple process, and requires comparatively little skill after the knowledge of enameling has been acquired. Very beautiful works have been produced by this process; but their beauty is that of design, to be credited to the artists who composed them, not to the artisans who did the work.

The *cloisonné* process is far more complex, and has a much wider range of uses. *Champlevé* enamels bear something the same relation to *cloisonné* that an outline drawing does to a picture in color. In *cloisonné* work the designs are also drawn on a prepared surface, not only in outline, but in full and minute detail. The lines of the drawing are then followed with fine gold wire, which is delicately and exactly fitted to every intricacy of the design, and then soldered in place. To outline in this manner, the petals of a flower, the feathers of a bird's wing, the flowing folds of drapery and the convolutions of the most elaborate ornaments, requires a nice touch and accurate skill only to be acquired by those who appreciate their work and delight in it. The *cloisons* being established

as described, the interspaces are filled with enamel, each color usually being separated from the others by the wire partitions.

The application of the enamel is the same, whether in the *champlevé* or *cloisonné* process, except that the latter requires greater care, as broader surfaces are exposed. The material, made into a paste, is put on as thick as practicable, and the vase, or other object under treatment, is placed in an oven and subjected to a degree of heat high enough to fuse the silice of the composition. This operation has to be repeated many times until a sufficient thickness of enamel has been attained. The whole surface of the vase is then rubbed down and polished with stone.

The original idea of the *cloisonné* process was, I take it, to strengthen the enamel and afford stays to hold it in place. Domestic articles of metal are now made, and made best in America, I believe, on which broad surfaces are covered with enamel which does not crack or scale off. But, apparently, this branch of the art was not so well understood by the ancients. The potters of nearly all nations have practiced glazing their largest vessels since the earliest ages; but there are no evidences that the metal-workers have ever, until these latter days, succeeded in covering considerable surfaces except by the *cloisonné* process.

The oldest metal enamels I know of are a pair of large Chinese plates, supposed to have been used in a temple which was destroyed in the thirteenth century of our era, and are said to be twelve hundred years old. They are of copper, *cloisonné* with some white metal. The wire was not intended for ornament, being soldered to the copper in small rings scattered irregularly over the surface, many of them partly and some entirely covered by the enamel. These rings were evidently intended as stays for the brittle vitreous composition, which has cracked off in places on the well-worn edges of the plates. I incline to the opinion that these plates are fair examples of early *cloisonné* work, showing that wire was first used as a fastening, enabling the artificer to cover wider surfaces than enamel would otherwise adhere to. The idea of making the wire available for outline and accent in design, was probably an after-suggestion, though this is now its principal office. Modern art can cover any desired extent of surface with enamel; but this material has not been found appropriate to objects larger than table vases and similar articles. The manufacture of large pieces reached its highest perfection in China between five hundred and six hundred years ago, and has since declined on account of the great cost of the work, even in that country of cheap labor. The French artificers, however, are now undertaking large pieces, especially of enamel in combination with other materials. The work, however, is quite different from the Chinese, the *cloisons* being much larger and the designs much simpler.

The largest single piece I have seen is an enameled bronze in Memorial Hall, a part of the French art exhibit. This is a life-size figure of an Egyptian girl playing on a harp. The arms, head and bust, and the mass of the drapery, are copper-bronze, the lighter parts of the dress are silver-bronze, and the head-gear, ornaments, and the frame of the harp are *cloisonné* enamel. The girl is standing with both arms extended, in the act of touching the strings. The pose is natural and graceful, and the figure is well modeled. The countenance is of the Egyptian Fella type, and though by no means beautiful, is not without a certain charm of expression. The work shows the careful study of a trained artist, and the accessories are presumably correct.

I cite this figure, however, as another example of craftsman's execution rather than artist's design. It is to the remarkable success of the enameler I would especially direct attention, and to the happy result of combining enamel with bronze. The colors are bright and strong; but, so far from being barbaric or tawdry, as might be feared, they seem subdued, and harmonize agreeably with the dull glow of the bronze. In a stately hall, with low lights and rich surroundings, this figure could be made the centre of superbly attractive effects.

China is the home of the *cloisonné* enamel, as we

know the art in modern times. Its practice was adopted in Japan within a comparatively recent period, and, as I have said, was almost unknown in Europe until the world's-fairs brought examples to the notice of the Christian nations. In our New-World's-Fair we have what is said to be the finest collection of Chinese enamels extant, that of Hu Kwang Yung, of Hang Chow. This collection contains many rare and several unique specimens, illustrating the history of the art since the eighth century of our era. The art had attained great perfection, however, at the date of the earliest examples here shown, a small vase, said to be the work of about our year 750, being better in color and workmanship than the products of the present day. The highest development was attained about five hundred to six hundred years ago, at which period were made the largest pieces, covered with the most wonderfully intricate and difficult designs, each piece requiring years of patient, skillful labor. There were also made, during this period, a wider variety of articles than the artificers have since attempted: vessels of every kind, dishes, plaques, vases, boxes, caskets, cabinets, screens, table-tops; and birds and beasts, especially elephants and cranes, serving as candlesticks, receptacles, etc.

An example of this stage of the art is a covered vase about four feet high. The material is copper, *cloisonné* with gold. The entire surface is covered with enamel in countless shades and tints; and the designs, at once graceful and bold, exhibit also a marvelous ingenuity, carried out in almost microscopic detail. The body of the vase is supported by three grotesque spoonbill cranes standing on inverted lily-bells. The sides of the bowl are occupied by compositions of water-fowl sporting among the lily-pads, and all the minor ornamentation of the vase corresponds more or less directly with these designs.

The above-mentioned piece is one of a pair now unique, the ascribed age being between five hundred and six hundred years. I am pleased to learn that this and several other very valuable works in the collection will remain in this country, having been purchased by Mr. H. C. Gibson, of this city.

As intimated, enamels were unknown in Japan until the present century, and it is stated that they are now almost exclusively used for the decoration of vessels, etc., in the service of temples. There are but few pieces in the Japanese section of the Exhibition, though these show an advanced state of the art, capable of rivaling any but the productions of the best Chinese period. The largest articles are a pair of sacred drums of copper, *cloisonné* with silver and gold. These, with the frames on which they rest, are about three feet high. The cylinders, nearly two feet in diameter, are entirely covered with flowing designs of vines, foliage, grasses and flowers. Each drum is surmounted by the sacred cock, grotesque as usual; the plumage conventionally treated, and each feather outlined in silver.

Still better than these are a pair of incense-burners, about five feet high, of the same material as the drums. The designs on these burners are very beautiful, being compositions of vines, frosted mulberry-leaves and minute flowers, some of them scarcely larger than a pin's head.

All these objects are exhibited by Shippo Kurwaisha, who is said to be the leading producer of this work in Japan. The drawing, so to speak, and the execution are very fine; but in color these examples are not equal to even contemporary Chinese enamels.

Of *champlevé* work the most noticeable examples are exhibited by Messrs. Edward Mathews & Son, of London, England. Their mural brasses for monumental purposes and for ecclesiastical ornament, are the best things of the kind ever seen in this country. The designs are, properly, bold, and the enamels are not comparable in color and quality to jewelers' work; but the effects produced are admirable, and well worthy the attention of our decorative artificers.

I can only here mention the magnificent display of enamels by Messrs. Elkington & Co., of Birmingham and London, to say I hope to give them fuller attention at another time.

—John V. Sears.